CLAIMS

What is claimed is:

1. An air spring assembly comprising:

a piston;

a piston airbag mounted to said piston; and

a primary airbag mounted adjacent said piston air bag such that at least a portion of said primary airbag contacts said piston airbag.

2. The air spring assembly as recited in claim 1, wherein said piston airbag defines a first volume and said primary airbag defines a second volume, a change in pressure within said piston airbag changes a diameter of said piston airbag.

3. The air spring assembly as recited in claim 2, wherein a change in diameter of said piston airbag changes a spring rate of said primary airbag.

4. The air spring assembly as recited in claim 2, wherein an increase in pressure within said first volume increases a spring rate of said primary airbag.

5. The air spring assembly as recited in claim 2, wherein a decrease in pressure within said first volume decreases a spring rate of said primary airbag.

6. The air spring assembly as recited in claim 1, further comprising a first band and a second band which retains said piston airbag to said piston.

7. The air spring assembly as recited in claim 6, further comprising a third band which retains said primary airbag to said piston airbag.

8. The air spring assembly as recited in claim 7, wherein said third band retains said primary airbag to said second band.

9. The air spring assembly as recited in claim 1, wherein said piston comprises a mount and an outer piston, said piston airbag mounted to said outer piston.

10. An air suspension system for a vehicle having a frame member, the air suspension system comprising:

a longitudinal member extending generally lengthways of the vehicle frame member and mountable to the vehicle for pivotal movement about an axis generally transverse of the vehicle frame member;

a primary airbag disposed between said longitudinal member and said vehicle frame member; and

a piston airbag mounted at least partially within said primary airbag such that a change in pressure within said piston airbag operates to change a spring rate defined by said primary airbag.

11. The suspension system as recited in claim 10, further comprising an air supply which independently communicates air to said primary airbag and said piston airbag.

12. A method of changing a spring rate of an air spring assembly comprising the steps of:

(1) mounting a primary airbag adjacent a piston airbag, the piston airbag defines a selectively changeable first volume and the primary airbag defines a selectively changeable second volume; and

(2) changing a pressure within the first volume such that a spring rate of the primary airbag changes.

13. A method as recited in claim 12, wherein said step (1) further comprises locating the piston airbag as a rolling surface for the primary airbag.

14. A method as recited in claim 12, further comprising the step of:

changing a volume within the primary airbag changes the spring rate of the primary airbag.